INTRODUCTION
Many opportunities are available for working with dentists. These range from preparing special oral hygiene products and pre-operative medications to preparing medications used in their dental surgical suites. Dental patients, in addition to therapy for dental and oral diseases, often require medications for proper oral hygiene and prevention. To the dentist and dental patient, the compounding pharmacist can be a valuable resource for the preparation of specific, individualized compounded medications as well as for accurate drug information and regular prescription services.

Today’s well-trained dentist is concerned with not only the health of the mouth but also of the head and neck. Dentists are also trained to diagnose most diseases of the mouth and jaw as well as for their treatment, care and management. Dentists deal with numerous oral problems, including dental caries, periodontal disease, oral lesions, oral cancer, temporomandibular joint disorders and inflammatory or ulcerative diseases of the oral tissue. In addition, dentists are also aware that many systemic diseases and some drug side effects include oral symptoms, such as referred pains of the jaw associated with angina, oral fungal infections from long-term antibiotic therapy or gingival hyperplasia in patients receiving anticonvulsants and other drugs.

Generally and routinely, pharmacists are called upon to assist in the management of pain, infections, allergies and other disorders. Some of the most commonly encountered diseases include aphthous stomatitis (canker sore), lichen planus, cicatricial pemphigoid (a chronic autoimmune disease of mucous membrane and/or skin) and drug-induced mucositis.

DEFINITIONS
Dentistry is the healing science and art concerned with the embryology, anatomy, physiology and pathology of the oral-facial complex, and with the prevention, diagnosis, and treatment of deformities, pathoses, and traumatic injuries thereof. The prefixes “dent-”, “denti-”, and “dento-” refer to the teeth and dental. A dentist is one legally qualified to practice dentistry. Dentition refers to the natural teeth, as considered collectively; in the dental arch, and may be deciduous, permanent or mixed. Areas of concern include the dentin, gums and oral mucosa.

STRUCTURE
A tooth consists of the corona (crown), neck and the root. Moving in from the surface, one goes from the enamel, through the dentin and the dental pulp. Surrounding the tooth is the circular ligament, cementum, gingiva and the periodontium.

The dentin is the ivory forming the mass of the tooth; about 20% of which is organic matrix, mostly collagen, with some elastin and a small amount of mucopolysaccharide. The inorganic fraction (about 70%) is primarily hydroxyapatite, with some carbonate, magnesium and fluoride. It is traversed by a large number of fine tubules running from the pulp cavity outward. Within the tubules are processes from the odontoblasts.

The gingiva is the dense fibrous tissue that is covered by mucous membrane. It envelops the alveolar process of the upper and lower jaw and surrounds the necks of the teeth. An inflammation of the gingiva, as a response to bacterial plaque on adjacent teeth, is called gingivitis. Periodontal refers to around the tooth. Periodontitis is an inflammation of the periodontium. It is a chronic inflammatory disease of the periodontium occurring in response to bacterial plaque on the adjacent teeth and is characterized by gingivitis, destruction of the alveolar bone and periodontal ligament and apical migration of the epithelial attachment resulting in the formation of periodontal pockets and ultimately loosening and exfoliation of the teeth.

CAUSES OF DENTAL PROBLEMS
Causative agents in many dental problems include lack of or proper oral hygiene and improper diet. Also, drug therapy and various disease states can cause dental problems. Drug induced examples include dry mouth caused by tranquilizers, fluorosis due to excessive fluorine intake, mucosal lesions following cancer chemotherapy, phenytoin hyperplasia, discoloration of teeth due to tetracycline.
and toxic lesions resulting from therapy with bismuth and gold. Disease induced examples include cardiovascular, respiratory tract, urinary tract, central nervous system, gastrointestinal, skin, neuromuscular diseases, as well as malignancies, serum and infectious hepatitis and pregnancy.

TYPES OF DISEASES
Local, oral disorders include acute ulcerative necrotizing gingivitis, allergy, angular stomatitis, chemical burns, cysts, dental caries, denture stomatitis, halitosis, hypersalivation/hyposalivation, keratotic diseases including hyperkeratosis and leukoplakia, local infections, periodontitis, recurrent ulcerative stomatitis, salivary calculi, canker sores and tumors or neoplasms (malignant and benign). There are numerous systemic disturbances that have oral manifestations.

TREATMENT OF DENTAL DISEASES
Chronic mucositis diseases of the oral mucosa are often treated with corticosteroids, including aphthous stomatitis (canker sore), lichen planus, cicatrization pemphigoid, pemphigus as well as nonmicrobial mucositis. Delivering steroids via oral rinse is advantageous as it provides drug contact with distal, hard-to-reach crevices and surfaces. Commonly, something like 0.1% or 0.2% triamcinolone acetonide is used in 5 mL doses as a mouth rinse four times daily, after meals and at bedtime, for 30 to 60 seconds prior to expectorating. Common causes of aphthae (nonspontaneous ulceration) include cinnamon flavoring, sodium laurel sulfate and pyrophosphates. Moderately or highly alcoholic mouth rinses or other products should not be used for the management of chronic mucositis or any other intraoral disease as it has a significant drying effect in the oral cavity. This makes patients more susceptible to caries, periodontal disease, halitosis and candidiasis. Misoprostol delivered as a powdered mucosalhesive formulation, has been found to markedly decrease pain and appears to aid in the healing process.

Oral pain may be due to a variety of causes, including neuralgias, vesiculoverous diseases, chemotherapy, neoplasms, trauma and infections. The goal in alleviating oral pain syndromes is to modify the underlying disease process. In the case of burning mouth, the pain can be intense and chronic and may occur anywhere in the oral cavity. Therapeutic management is often a trial-and-error process. Systemically, tricyclic antidepressants, chloralhydrate, clonazepam and carbamazepine have been used. Limited benefit has been obtained from topical steroid rinses, misoprostol, capsacin and anesthetics (antihistamines, amitriptyline, dicyclomine). Ketamine and dextromethorphan are playing increasingly important roles in the management of refractory neuropathic pain and the use of oral dextromethorphan slow release capsules and ketamine in PLO directly on trigger points have been reported to be effective.

Oral fungal infections can be treated with novel dosage forms such as nystatin lozenges and pastilles. Also, multi-ingredient mouthwashes sporting such names as Reynold’s, Kaiser’s, and others consisting generally of a corticosteroid, antifungal, antihistamine and others are very widely used.

DRUGS USED IN DENTAL PREPARATIONS
Drugs commonly employed include analgesics, antibiotics, antihistamines, anti-inflammatory agents, corticosteroids, hemostatic agents, anesthetics, sedatives/hypnotics, stimulants, tranquillizers, vitamins, and involvement with vehicles and protectants. Some patients require artificial saliva, fluoride, desensitizers for dentin, cavity liners (varnishes), pulp cappings, disinfectants for root canals, disinfectants for instruments, denture preparations, prophylaxis pastes, dentrifices, mouthwashes and oral irrigations.

CONTRIBUTIONS OF COMPOUNDING
A number of disease states can result in oral ulceration. Compounding dental mouth rinses from bulk powders (anti-inflammatory agents, antibiotics, etc.) have numerous advantages over commercial dosage forms. For example, there will be fewer stability and compatibility problems to complicate the administration of the product. Each manufactured product has numerous ingredients that may contribute to compatibility or stability problems. Also, if a preservative is present but the commercial product is diluted down due to mixing with other products, then it may drop below its effective concentration. Active drugs can be incorporated into toothpastes and gels. For gum disease, antibiotics can be incorporated into a poloxamer gel (a reverse thermal gel) and applied to the gum line between the gum and the tooth. The poloxamer will thicken and release the drug over a longer time period than if a rinse or irrigation is used.

In compounding for dentists and dental patients, many options are available depending upon the patients’ conditions and needs.

REFERENCES

USEFUL FORMULATIONS FOR TREATING DENTAL CONDITIONS

Professional Use Formulas

Analgesic/Anesthetic
Rx Benzocaine 10% Solution for Mucosal Membranes
Benzocaine 10 g

Propylene glycol qs 100 mL

Accurately weigh the benzocaine. Add sufficient propylene glycol to make 100 mL and stir until dissolved (slight heat may be used to hasten dissolution). Package and label.

Desensitizers for Dentin
Rx Sodium Fluoride 35% Paste
Sodium fluoride powder 10 g
Kaolin 10 g
Glycerin 10 g

Accurately weigh each ingredient. Mix the sodium fluoride and kaolin powders until uniform. Incorporate the glycerin and mix well. Package and label.

Rx Potassium Nitrate 10% Desensitizing Gel
Potassium nitrate 10 g
Karigel-N 90 g

Accurately weigh each ingredient. Incorporate the potassium nitrate into the gel vehicle. Package and label.

Cavity Liners (Varnishes)

Rx Dental Cavity Varnish
Camphor 70 g
Prednisolone 1 g
Parachlorophenol 26.5 g
Metacresol acetate 2.5 g

Accurately weigh/measure each ingredient. Mix the camphor with the parachlorophenol. Add the metacresol acetate. Add the prednisolone and mix well. Package and label.

Rx Dental Chemical Curettage Agent
Sodium hydroxide 7.8 g
Sodium hypochlorite 5% solution 100 mL
Sodium carbonate 19 g (approx)

Accurately weigh/measure each ingredient. Slowly dissolve the sodium hydroxide in the sodium hypochlorite solution using an ice bath to keep the solution cool. Allow the solution to warm to room temperature. Add the sodium carbonate solution until the solution is saturated. It may not take all the sodium carbonate. Package and label.

Rx Dental Pressure-Indicating Paste
Zinc oxide ointment 53 g
White petrolatum 17 g
Mineral oil 25 g
White wax 5 g
Flavoring qs

Accurately weigh each ingredient. Reduce the white wax to a fine state by grating. Heat the grated wax until it melts, using a double boiler to eliminate scorching. Heat the mineral oil and white petrolatum in a separate double boiler to a temperature near that of the melted wax. Add the mineral oil/petrolatum combination very slowly, in small increments, with continuous stirring to the melted wax. After the two oleaginous liquids are thoroughly mixed - and while constantly stirring the mixture - add the zinc oxide ointment in small increments. When the mixture is completely melted and displays a uniform creamy white appearance, remove the heat and allow the mixture to cool. If a volatile flavoring agent is used, such as lemon oil or peppermint oil, add it during cooling, just before solidification occurs. Pour the “paste” while it is still slightly warm into the desired ointment jars, or allow it to solidify and place with a spatula into appropriate containers. Package and label.

Pulp Cappings or Temporary Cements
Rx Zinc Oxide and Eugenol Cement
Zinc oxide 50 g
Eugenol qs

Weigh the zinc oxide. Incorporate sufficient eugenol to make a thick, putty-like paste. Package and label. Protect from air and moisture.

Rx Zinc Oxide and Thymol Cement
Zinc oxide 67 g
Thymol 33 g

Accurately weigh each ingredient. Melt the thymol in a porcelain evaporating dish, using a water bath. Add the zinc oxide and rub the mixture to make a smooth paste. Spread in a thin layer over the dish and allow to cool. Break into small pieces and keep in a well-closed container.

Abrasives
Rx Paste Abrasive for Professional Use #1
Pumice, in very fine powder 40 g
Methyl salicylate 1 mL
Starch glycerite 60 g

Accurately weigh/measure each ingredient. Mix the methyl salicylate with the
starch glycerite. Incorporate into the pumice and mix until uniform. Package and label.

Rx Paste Abrasive for Professional Use #2

Pumice, in very fine powder 61.8 g
Sodium borate 10.8 g
Glycerin 28 mL
Spearmint oil 0.1 mL
Glyceryl polyethylene glycol ricinoleate (E435) 10 mL
Accurately weigh/measure each ingredient. Mix the glycerin with the sodium borate and the spearmint oil. Incorporate the pumice slowly. Package and label. Note: The final consistency can be altered by the quantity of glycerin used.

PATIENT FORMULATIONS

Analgesics/Anesthetics

Rx Benzocaine Troches

(Makes 12)
Benzocaine 750 mg
Vanillin 30 mg
Sucrose 8 g
Tragacanth 250 mg
Purified Water qs
Accurately weigh the powders. Mix the powders thoroughly. Add sufficient water to make a pliable mass. Shape into a firm cylinder. Using a sharp knife, cut off troches of the desired thickness. Allow to dry. Package and label.

Rx Benzocaine 5% Ointment

Benzocaine 5 g
Petrolatum qs 100 g
Accurately weigh each ingredient. Reduce the particle size of the benzocaine. Incorporate a small quantity of the petrolatum into the benzocaine and work until very smooth. Incorporate the remainder of the petrolatum geometrically and mix well. Package and label.

Rx Benzocaine Compound Ointment

Benzocaine 5 g
Chlorobutanol 5 g
Methyl salicylate 90 drops
Petrolatum qs 100 g
Accurately weigh/measure each ingredient. Mix the benzocaine, chlorobutanol and methyl salicylate. Incorporate the mixture into the petrolatum and mix well. Package and label.

Rx Benzocaine-Guaiacol Solution

Benzocaine 20 mg
Guaiacol 20 mg
Peruvian balsam 60 mg
Accurately weigh each ingredient. Mix the benzocaine with the guaiacol and Peruvian balsam to form a smooth paste. Incorporate the Peruvian balsam and mix well. Package and label.

Rx Chlorobutanol in Clove Oil

Clove oil 25 g
Chlorobutanol qs 100 mL
Accurately weigh the chlorobutanol. Incorporate the clove oil to volume and mix well. Package and label.

Oral Ulceration Formulas

Rx Misoprostol 0.0027% Mucoadhesive Powder

Misoprostol 400 µg
Polyethylene oxide (Polyox 301) 200 mg
Hydroxypropyl methylcellulose qs 15 g
Obtain two misoprostol 200 µg tablets. Accurately weigh each of the other ingredients. Pulverize the misoprostol tablets to a very fine powder. Add the polyethylene oxide (Polyox 301) followed by the hydroxypropyl methylcellulose (Methocel E4M) and mix well. Note: It is important to have all the materials of approximately the same particle size. Package and label.

Rx Misoprostol 0.0024% and Lidocaine 1% in Glycerin

Misoprostol 2.4 mg
Lidocaine HCl 1 g
Glycerin qs 100 mL
Accurately weigh/measure each ingredient and count the required number of misoprostol tablets. In a mortar, thoroughly pulverize the misoprostol tablets. Add the lidocaine hydrochloride powder and comminute the powders together. Wet the powders with glycerin to form a smooth paste. Geometrically, add additional glycerin until the product measures 100 mL. Package and label.

Rx Misoprostol 0.0024% Mouth Rinse for Oral Ulcerations

Misoprostol 200 µg tablets 12 tablets
Methylparaben 200 mg
Glycerin 10 mL
Cherry Flavor, Anhydrous 10 mL
Syrup 40 mL
Sodium carboxymethylcellulose 0.25% qs 100 mL
Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient and obtain the misoprostol tablets. Pulverize the misoprostol tablets. Add the glycerin to form a paste and add the methylparaben and the cherry flavor. Add the syrup and sufficient sodium carboxymethylcellulose 0.25% solution to volume and mix well. Package and label.

Rx Misoprostol 0.001% and Lidocaine 0.5% Oral Rinse

Misoprostol 1 mg
Lidocaine hydrochloride 500 mg
Methylparaben 200 mg
Glycerin 10 mL
Cherry Flavor, Anhydrous 10 mL
Syrup 40 mL
Sodium carboxymethylcellulose 0.25% qs 100 mL
Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient and obtain the misoprostol tablets. Dissolve the methylparaben in the glycerin and add the lidocaine hydrochloride, pulverized misoprostol tablets and the cherry flavor. Add the syrup and sufficient sodium carboxymethylcellulose 0.25% solution to volume and mix well. Package and label.

Anti-Infectives

Rx Tetrazycline 2.4% Periodontal Gel

Tetracycline hydrochloride 2.4 g
Pluronic F127 30 g
Sterile water for injection 90 g
Accurately weigh each ingredient. Add the Pluronic F127 to 70 g (mL) of the sterile water for injection (which has been previously cooled in the refrigerator), and mix well. Store in a refrigerator. Disperse the tetracycline hydrochloride in 20 g (mL) of the sterile water for injection. Add this mixture to that from Step #2 and mix well. Package and label.

Rx Metronidazole 10% Periodontal Gel

Metronidazole 10 g
Pluronic F127 30 g
Sterile water for injection 85 g
Accurately weigh each ingredient. Add the Pluronic F127 to 70 g (mL) of the sterile water for injection (which has been previously cooled in the refrigerator), and mix well. Store in a refrigerator. Disperse the metronidazole in 15 g (mL) of the sterile water for injection forming a paste. Add this paste to the Pluronic gel and mix well. Package and label.

Rx Metronidazole 0.05% and Neomycin Sulfate 1% Irrigation Solution

Metronidazole 500 mg
Neomycin sulfate 3 g
Methylparaben 25 mg
Sterile water for irrigation qs 100 mL
Accurately weigh/measure each ingredient. Dissolve the metronidazole, neomycin sulfate and methylparaben in about 90 mL of the sterile water for irrigation. Adjust the pH, if necessary, to between pH 4.5 and 7 with either sulfuric acid or sodium hydroxide. Add sufficient sterile water for irrigation to volume and mix well. Sterilize by filtration and place in sterile container. Package and label.

Rx Amphotericin B 100 mg Troches (makes 24)

Amphotericin B 2.4 g
Aspartame 500 mg
Silica gel 240 mg
Acacia powder 400 mg
Flavoring oil 3-4 drops
Polyethylene glycol 1450 21.5 g (depending upon the mold used)
Note: It is necessary to calibrate the troche mold using the polyethylene glycol 1450 base prior to determining the exact quantity of polyethylene glycol 1450 required for this prescription. Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient. Melt the polyethylene glycol 1450 using low heat or a water bath. Commute and mix the amphotericin B, aspartame, silica gel and acacia powders together in a mortar. Sift into the melted base and mix thoroughly. Cool slightly and add the flavoring oil and mix well. Pour into molds and cool. Package and label.
**Rx Tetracaine Hydrochloride 0.025% and/or Nystatin 250,000 unit Popsicles (4 Popsicles)**

- Tetracaine hydrochloride: 120 mg
- and/or Nystatin: 1,000,000 units (227 mg)
- Aspartame: 480 mg
- Corn syrup: 48 mL
- Purified water qs 480 mL
- Flavor or KoolAid powder qs

**Rx Promethazine Hydrochloride 50 mg/mL in PLO Gel**

- Promethazine HCl: 5 g
- Purified water: 4 mL
- Lecithin:isopropyl palmitate solution: 22 mL
- Pluronic F127 30% gel: qs 100 mL

Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient. Dissolve the promethazine hydrochloride in the purified water. Add this solution to about 70 mL of the Pluronic F127 30% gel and mix well.

Incorporate the lecithin:isopropyl palmitate solution using shear mixing. Add additional pluronic F127 30% gel to volume and continue shear mixing.

**ProOp Medications**

**Rx Pediatric Pre-Operative Cocktail Injection**

**Single Dose**

- Meperidine HCI: 50 mg
- Chlorpromazine HCl: 10 mg
- Promethazine HCl: 15 mg
- Sterile water for injection qs

**Note:** This preparation should be prepared in an aseptic working environment, using aseptic technique, by a validated aseptic compounding pharmacist.

**Method 1: Using commercially available injections.**

The quantity of meperidine hydrochloride would be 1 mL, chlorpromazine hydrochloride 0.4 mL and promethazine hydrochloride 0.6 mL. Accurately weigh each quantity in a syringe and place in a sterile, evacuated vial. Mix well, package and label. The final solution can be withdrawn into a sterile syringe, capped, labeled and dispensed.

**Method 2: Using bulk drug substances.**

Accurately weigh the 50 mg of meperidine hydrochloride and place in a clean vial. Accurately weigh 20 mg of chlorpromazine hydrochloride, dissolve in 1 mL of sterile water for injection, withdraw 0.5 mL and add to the meperidine hydrochloride powder and mix well.

Accurately weigh 20 mg of promethazine hydrochloride, dissolve in 1 mL of sterile water for injection, withdraw 0.75 mL and add the meperidine hydrochloride: chlorpromazine hydrochloride mixture, and mix well. Note: If desired, sufficient sterile water for injection can be added to make a total volume of 2 mL. Withdraw the solution into a syringe and filter through a sterile evacuated vial. Package and label.

**Stomatitis Preparations**

<table>
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<tr>
<th>(100 mL)</th>
<th><strong>_rx Tetracaine Hydrochloride 25 mg/mL Susp.</strong></th>
<th><strong>Kaiser’s</strong></th>
<th><strong>Kraemer’s</strong></th>
<th><strong>Powell’s</strong></th>
<th><strong>Reynold’s</strong></th>
<th><strong>Stanford’s</strong></th>
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<td></td>
<td>Nystatin Oral Susp.</td>
<td>12 mL</td>
<td>30 mL</td>
<td>4.8 mL</td>
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<td></td>
<td>Hydrocortisone Powder</td>
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<td>20 mg</td>
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<td></td>
<td>Purified Water</td>
<td>qs 100 mL</td>
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<td></td>
<td>Dyclonine 1% Solution</td>
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<td></td>
<td>Lemon Oil</td>
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<td>Glycerin</td>
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<td></td>
<td>Diphenhydramine 2.5 mg/mL Elixir</td>
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<td></td>
<td>Chlorpheniramine 0.4 mg / mL Syrup</td>
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**Rx Saliva Substitute for Dry Mouth/Throat 100 mL**

- Methylparaben: 200 mg
- Glycerin: 10 mL
- Cherry Flavor, Anhydrous: 10 mL
- Syrup: 40 mL
- Sodium carboxymethylcellulose 0.25%: qs 100 mL

Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient. Dissolve the methyl-
paraben in the glycerin and add the cherry flavor. Add the syrup and sufficient sodium carboxymethylcellulose 0.25% solution to volume and mix well. Package and label.

Miscellaneous Preparations

Rx Fluoride Lozenges

Sodium fluoride 30 g
Sorbitol candy 52.8 mg

Accurately weigh the sodium fluoride and obtain the required quantity of sorbitol candy.

Melt the sorbitol candies at a temperature not exceeding 70º C. Add the sodium fluoride and mix well. While still fluid, cool and pour into lozenge (troche) molds. Allow to cool until solid.

Package and label.

Rx Toothgel vehicle

Sodium chloride 46.56 g
Potassium chloride 3 g
Calcium lactate 6.12 g
Magnesium citrate 2.04 g
Sodium bicarbonate 22.44 g
Sodium phosphate monobasic 3.84 g
Silica gel 3.60 g
Polyethylene glycol 1450 qs

Calibrate the lollipop or troche mold that is to be used. Spray the mold with a vegetable-based oil and wipe off the excess. Accurately weigh each ingredient. Triturate all the powders together to obtain a small, uniform particle size. Melt the polyethylene glycol 1450 to about 55º C in a suitable beaker. Slowly, with stirring, add the powders and mix until homogenous. Cool to approximately 45º C and pour into molds. Let cool, package and label.

Rx Chlorhexidine 0.2% Oral Rinse

Chlorhexidine gluconate 200 mg
Aspartame 35 mg
Flavor qs
Purified water qs 100 mL

Calculate the required quantity of each ingredient for the total amount to be prepared. Accurately weigh/measure each ingredient. Dissolve the chlorhexidine and aspartame in about 75 mL of purified water. Add the flavor (patient’s preference) and mix well. Add sufficient purified water to volume and mix well. Package and label.

CONSUMER PREPARATIONS

Consumer Oral Hygiene Preservative-Free Preparations

Dentifrices are generally used with a toothbrush for cleaning teeth surfaces that can be easily reached. Dentifrices are available as gels, pastes, powders and slurries. Generally, they contain abrasives (phosphate salts, calcium and magnesium carbonates, hydrated aluminum oxides, silicates or dehydrated silica gels), binders (gums, seaweed colloids, synthetic cellulose or mineral colloids), flavoring agents, sweetening agents (saccharin sodium), foaming agents (sodium lauryl sulfate) and humectants (sorbitol, glycerol or propylene glycol).

Mouthwashes are used to mechanically flush loose debris from the mouth, to provide a pleasant taste and to mask bad breath for approximately 15 to 30 minutes. These can also be used as vehicles to deliver various drugs.

Rx Toothpaste vehicle

Calcium pyrophosphate 45 g
Sorbitol 70% solution 20 mL
Sodium lauryl sulfate 1.2 g
Sodium carboxymethylcellulose 600 mg
Sodium saccharin 100 mg
Peppermint oil 0.75 mL
Purified water 32.35 mL

Accurately weigh/measure each ingredient. Add the sodium lauryl sulfate, sodium saccharin and peppermint oil to the purified water. Add the sodium carboxymethylcellulose to the sorbitol solution. Mix the two preparations until uniform. Geometrically incorporate the calcium pyrophosphate to form a paste. Package and label.

Rx Paste Dentifrice, Preservative Free

Methylcellulose 1 g
Glycerin 1 g
Propylene glycol 18 g
Purified water 13.5 g
Saccharin sodium 50 mg
Peppermint oil 300 mg
Mineral oil 1 g
Sodium lauryl sulfate 2.5 g
Dicalcium phosphate, in very fine powder 54 g

Accurately weigh/measure each ingredient. Mix the methylcellulose with the glycerin, propylene glycol, saccharin sodium, peppermint oil and mineral oil. Slowly incorporate the purified water and mix until smooth. Slowly incorporate the sodium lauryl sulfate and dicalcium phosphate and mix until uniform. Package and label.

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When swallowing a tablet is a problem...

A Spoonful from Paddock Helps the Medicine Go Down

The Paddock Solid-to-Liquid Solution

Paddock Laboratories is the leading pharmaceutical supplier of compounding actives, vehicles and professional support.

When compounding oral liquids, Paddock's Ora-Plus® and Ora-Sweet® provide the solution.

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Over 30 formulations extemporaneously compounded with Ora-Plus and Ora-Sweet have been studied and tested.

These formulations and stability studies are available to provide you with an extra measure of confidence to “help the medicine go down”.

For a copy of these stability studies, please call 1-800-328-5113 or visit www.paddocklabs.com.

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- Bethanechol
- Captopril
- Chloroquine Phosphate
- Cisapride
- Clonazepam
- Diltiazem HCl
- Dipyridamole
- Enalapril Maleate
- Flecainide Acetate
- Flucytosine
- Hydralazine HCl
- Ketoconazole
- Labetalol
- Metolazone
- Metoprolol Tartrate
- Metronidazole
- Procainamide
- Pyrazinamide
- Quinidine Sulfate
- Rifampin
- Spironolactone
- Spironolactone/HCTZ
- Tetracycline HCl
- Verapamil HCl